Egg-speriment

Kit contains:

- 1 toilet paper tube
- 1 paper plate
- 1 plastic egg

You will need: a drinking glass, fillers for your plastic egg, and (if you're feeling brave and your grownup allows it) a real egg.

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INSTRUCTIONS

Step 1. Fill your plastic egg with small objects so that its weight is more like a real egg.

Step 2. Assemble your egg-speriment. Center the plate on top of a sturdy drinking glass. Stack the tube on top of the plate directly over the glass. Balance the egg on top.

Step 3. Smack the edge of the plate horizontally. This will send the plate and tube flying. Your egg should land in the cup.

EXTENSION 1: Try filling your egg with different objects. Can it ever be too heavy or too light? Why do you think this is the case?

EXTENSION 2: If you are feeling brave and your grownup says it's okay, try repeating the egg-speriment with a REAL egg. (**Note:** You MUST fill your drinking glass with water or else the egg will break!)

WHAT'S GOING ON?

Newton's First Law of Motion, also known as the Law of Inertia, says that an object in motion will stay in motion—and an object at rest will stay at rest—unless acted upon by a force. In our case, since the egg is not moving while it sits on top of the tube, that's what it wants to do: not move. You applied enough force to the plate to cause it to zip out from under the cardboard tube (there's not much friction against the drinking glass). The edge of the plate hooked the bottom of the tube, which then sailed off with the pan. Basically, you knocked the support out from under the egg. For a brief nanosecond or two, the egg didn't move because it was already stationary. But then, the force of gravity took over and pulled the egg straight down toward the center of the Earth. Once the egg was moving, it didn't want to stop, but the cup was there to catch it.

(Source: https://www.childrensmuseum.org/blog/museum-home-egg-drop-inertia)